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IS 11468 (2012): Laboratory Glassware – Pipettes – Colour Coding [CHD 10: Glassware]



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भारतीय मानक
प्रयोगशाला ग्लासवेयर — पिपेट — रंग संहिता
(पहला पुनरीक्षण)

Indian Standard
LABORATORY GLASSWARE — PIPETTES —
COLOUR CODING
(*First Revision*)

ICS 01.070; 17.060

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

August 2012

Price Group 1

NATIONAL FOREWORD

This Indian Standard (First Revision) which is identical with ISO 1769 : 1975 'Laboratory glassware — Pipettes — Colour coding' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Glass, Glassware and Laboratoryware Sectional Committee and approval of the Chemical Division Council.

In order to identify and facilitate sorting one-mark and graduated pipettes from a large batch by the analyst or the unskilled worker, colour coding system may be adopted. This standard was first published in 1985 with a view to harmonize the then already existing coding systems and to align them with the International Standard. During this revision, the Committee felt that it would be more convenient to prepare this standard by adoption of ISO 1769 on dual number basis.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

LABORATORY GLASSWARE — PIPETTES —
COLOUR CODING
(*First Revision*)

0 INTRODUCTION

In order to assist as rapidly as possible in harmonizing the coding systems already in existence and with a view to avoiding the appearance of other systems in the future, this International Standard is limited to the essential requirements. It is intended at a later date to consider the standardization of suitable requirements and test methods for the durability of the colours used for coding.

NOTE — The purpose of this International Standard is to ensure that if a colour code is used on pipettes, all manufacturers will use the same code; it is not intended as an encouragement of colour coding if this is not required.

1 SCOPE

This International Standard specifies a system of colour coding for one-mark pipettes for identification of nominal capacities, and for graduated pipettes for identification of nominal capacities and units of sub-division.

2 FIELD OF APPLICATION

This International Standard applies to one-mark and graduated pipettes of the nominal capacities listed in tables 1 and 2 respectively.

NOTE — Many pipettes not covered by International Standards are included in tables 1 and 2, in order, firstly, to ensure uniformity of colour coding as far as possible for non-standard as well as standard pipettes and, secondly, to reserve suitable codes for possible future International Standards for other types of pipette.

3 COLOUR CODE

The colour coding used on one-mark pipettes shall be in accordance with table 1, and on graduated pipettes shall be in accordance with table 2.

4 COLOURS

Variations in the enamels used and in the methods of application appropriate for pipettes made from different types of glass inevitably result in minor variations of colour, and it is therefore not appropriate to specify closely the seven colours mentioned in the tables.

5 METHOD OF MARKING

The colour code shall take the form of colour bands extending at least 150° around the circumference of the pipette and situated not more than 70 mm from the top of the pipette and not less than 20 mm above the nearest graduation line.

For a code consisting of a single band of colour, the band shall be 6 to 10 mm wide. For a code consisting of two bands of colour, each band shall be 3 to 5 mm wide and the two bands shall be separated by a space of 2 to 3 mm.

NOTE — If it is desired to differentiate between graduated pipettes calibrated to deliver to a graduation line (Type 1) and those calibrated to deliver to the jet (Type 2), this shall be done by adding above the main coding on the Type 1 pipettes an extra band 1 to 1,5 mm wide of the same colour.

6 DURABILITY

The colour band or bands shall be reasonably durable under normal conditions of use.

NOTE — Certain cleaning materials used with pipettes may alter or remove the colours to such an extent that the coding becomes ineffective; if circumstances necessitate the use of such cleaning materials, the portion of the pipette bearing the colour band or bands shall not be immersed in the cleaning material.

TABLE 1 — Coding system for one-mark pipettes

Nominal capacity ml	Colour code bands
0,001	1 blue
0,002	2 red
0,003	1 yellow
0,004	2 green
0,005	1 white
0,01	1 orange
0,015	2 blue
0,02	1 black
0,025	2 white
0,03	2 yellow
0,035	2 black
0,04	2 red
0,05	1 green
0,075	2 orange
0,1	1 blue
0,15	1 white
0,2	1 red
0,25	2 green
0,3	1 yellow
0,4	2 red
0,5	2 black
1	1 blue
2	1 orange
3	1 black
4	2 red
5	1 white
6	2 orange
7	2 green
8	1 blue
9	1 black
10	1 red
15	1 green
20	1 yellow
25	1 blue
30	1 black
40	1 white
50	1 red
75	1 green
100	1 yellow
150	2 black
200	1 blue

TABLE 2 — Coding system for graduated pipettes

Nominal capacity ml	Sub-division ml	Colour code bands
0,01	0,001	1 blue
0,05	0,001	1 yellow
0,1	0,001	2 green
	0,005	1 red
	0,01	1 white
	0,05	2 orange
0,125	0,0125	2 yellow
0,2	0,001	2 blue
	0,002	2 white
	0,01	1 black
	0,1	1 orange
0,5	0,005	1 green
	0,01	2 yellow
	0,02	2 red
	0,05	2 black
	0,25	2 green
1	0,01	1 yellow
	0,05	2 green
	0,1	1 red
1,5	0,01	2 red
2	0,01	2 white
	0,02	1 black
	0,05	2 orange
	0,1	1 green
3	0,01	2 blue
5	0,05	1 red
	0,1	1 blue
10	0,1	1 orange
15	0,1	2 green
20	0,1	2 yellow
25	0,1	1 white
	0,2	1 green
50	0,1	2 orange
	0,2	1 black
100	0,2	1 red

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This Indian Standard has been developed from Doc No.: CHD 10 (1781).

Amendments Issued Since Publication

Amendment No.	Date of Issue	Text Affected

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